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ABSTRACT

Electronic access to research on women is available in a variety of forms, from both primary and secondary sources. Both types of sources are growing dramatically in number and scope. This guide provides information on resources directly available to the researcher through electronic communications media. It includes enough technical information to get the user started. The use of electronic mail (e-mail) provides access to research and greatly facilitates the research process. Two communications networks frequently used by academic institutions and researchers are BITNET and the Internet. Suggestions for using these and e-mail are given. A list is provided of computer discussion groups (facilitated by software known as Listserv) that may be of interest to researchers on women. Other tools that may be useful include news groups, different file distribution methods, Telnet, electronic conferencing, electronic journals, full-text databases, and numerical data sources. Secondary sources are briefly discussed. Researchers must be aware that the technology is developing so quickly that the guide is becoming out-of-date even as it is being written. (SLD)

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Electronic Access to Research on Women:

A Short Guide

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Introduction

Because the study of women is an interdisciplinary effort, research on women is conducted in many disciplines — in the humanities, social sciences, physical sciences, and in the professional disciplines such as business and social welfare. Consequently, although the body of researchers who are identified primarily with women's studies is small, there are many who contribute and use such research. Identifying and finding the work of these contributors is an ongoing challenge, and the Information Age of computer access and information retrieval has not yet made this search process much easier. It has, however, markedly increased the variety of resources available to researchers.[1]

Electronic access to research on women is available in a variety of forms. These include both primary and secondary sources. *Primary* sources that provide direct access to information include electronic discussion groups, datafile distributions, electronic journals, electronic conferencing, numerical data archives, and full-text databases. *Secondary* sources that provide information on how to find research on women include the indexing and abstracting services that list periodical articles and, on occasion, other materials. One characteristic of both types of resources is that they are growing dramatically in number as well as in scope.

Some early trends in computer-based resources have been previously identified.[2] This guide provides an update that concentrates on resources directly available to the researcher through electronic communications media. It includes enough technical information to help get you started, but, for detailed technical information, you are encouraged to consult the technical references cited as well as local computing documentation at your site.

Electronic Communications

Communications networks and computer-mediated communications are electronic tools that provide access to research on women. The use of *electronic mail* or *email* not only provides access to research, but greatly facilitates the research process. Because email speeds up communication, the mechanics of research are much easier than they were when researchers were dependent on the telephone or the postal service (known as "snail mail" to email users). Email is both a primary and secondary source. One can use email to do research or to have direct access to research and one can use email to solicit sources.

Use of electronic mail requires, however, that researchers learn the rudiments of computer technology and master the jargon of communications networks. Luckily, this is becoming much easier than it once was. Several introductory manuals have been written, such as *Zen and the Art of the Internet*[3] and *Hitchhiker's Guide to the Internet*.[4] Further, these references are often available electronically.[5] Learning electronic mail skills and obtaining the introductory guides become the first steps in overall mastery of the electronic resources.

The two communications networks frequently used by academic institutions and researchers are BITNET and the Internet. BITNET (the *B*ecause *I*t's *T*ime *Net*work) connects mostly academic institutions. The Internet is not one network; rather it is a very large network of networks that connects academic and research institutions, government and military installations, and commercial and private organizations. Internet connections are fast and offer more services than BITNET (including remote login into other computers). Many academic and research computers are on both BITNET and the Internet.

Electronic Mail

The mechanics for sending electronic mail differ from machine to machine and from mail program to mail program, but the basic concepts remain the same. Email is very much like its post-office counterpart: a correspondent writes a letter and indicates the recipient's address. The letter is then delivered to the recipient's mailbox. With email, however, letters travel from computer to computer, rather than via the Postal Service, and the mailboxes involved are electronic, residing on computers. This electronic communication requires that the computers be physically connected (or "networked") in some way, in the same fashion that telephones must be connected to work. The way that the computers are connected also determines the type of electronic address.

If you were to send postal mail, you would use an address that included the person's name, street and number, city, state, and zip code. Similarly, computer mailing programs need to know the person's computer name (*userid* or *username*) and the computer address. The entire electronic mail address is represented as:

userid@*computeraddress*

where the *computeraddress* is one set of characters such as ALBNYVMS, which is likely a BITNET address. Alternatively, the *computeraddress* might be two or more sets of characters separated by periods such as CSC.ALBANY.EDU, an Internet address.

If you use a machine on both BITNET and the Internet, you have *two* electronic addresses, a BITNET address and an Internet address. Further, there may be different forms for these addresses.

If you are mailing from a UNIX machine connected to the Internet, but not directly to BITNET, your BITNET addresses, such as TUREK@ALBNYVMS should have ".bitnet" appended to them, e.g., TUREK@ALBNYVMS.BITNET. Check your local computing documentation for the type of electronic addressing appropriate for your site.[6]

Discussion Groups

Email is useful for corresponding with people you already know at other institutions; but it also provides a mechanism for finding associates and collaborators through electronic discussion lists, which are used to discuss topics of common interest. Subscribing to a list is comparable to signing up for a group of pen pals all interested in the same subject. Lists help researchers gather information as well as disseminate the results of their work.

On BITNET electronic discussions can be facilitated automatically by software known as *listserv*. The listserv software serves both as an email distribution mechanism and as a file server. The characteristics of listserv interest lists or discussion groups are discussed in this section, and the file serving capabilities of the listserv software are discussed later.

Currently, there are almost three thousand listserv discussions on topics as diverse as health, Japanese culture, and bee-keeping. Hundreds of lists are devoted to computing and technical topics, but new lists are being formed

every day. Many of these new lists focus narrowly on specific areas of interest to a group of researchers. Hence, the likelihood of finding a list relevant to your particular research needs is increasing.

Electronic discussion groups may be *moderated*, where entries are reviewed before being posted to the group, or not moderated. The listserv software allows a list to be either *public*, where membership may be open to anyone or *private*, where the discussion group is restricted to specific groups.

One example of a public list is WMSTL@UMDD which serves the academic and professional needs of people involved with Women's Studies as teachers, researchers, and/or program administrators. The list gives people an opportunity to ask questions and exchange information about such issues as teaching strategies, useful texts and films, innovative courses, current research, funding sources, building Women's Studies majors, minors, and graduate programs, relations between Women's Studies and other "minority studies" programs, and problems that Women's Studies programs encounter. WMST-L also welcomes announcements about relevant conferences, calls for papers, job opportunities and publications. Both women and men participate in WMST-L.

On the other hand, SYSTERS is a private list established in 1987 by Anita Borg[7] exclusively for professional women in computer science. Discussions on this list are confined to issues of importance to professional women in computer science, both in academia and in industry. Items include pleas for career advice, questions about how to handle "difficult" interview situations and sexual harassment, questions about who is doing what research on what topic, requests for guidance on writing papers, and even what to wear when presenting those papers at conferences. This discussion list is one creative solution that addresses the isolation problem faced by many women in computer science.

The discussion lists mentioned so far include national and international participants. However, discussion lists can be very limited. An example of a *local* list is one sponsored by the Women's Concerns Committee at the State University of New York at Albany. WCC-L@ALBNYVM1 was established to discuss issues of interest to women on the University at Albany campus. One person regularly posts the events and meetings for the coming week. The list also has been used to post minutes of meetings, to make announcements, and to ask questions.

Subscribing and Unsubscribing

To subscribe to an electronic interest list, send an email message addressed to "listserv" at the computer that sponsors the list. Leave the subject of the message blank. Your message should have just one line:

SUBSCRIBE *listname* "Your_full_name"

where *listname* is the name of the list to which you are subscribing. For example, to subscribe to WMST-L, send mail to LISTSERV@UMDD or to LISTSERV@UMDD.UMD.EDU. Leave the subject of the mail blank, and include just one line as the text body of your mail:

SUBSCRIBE WMST-L "Judith Hudson"

To discontinue your participation, send a one-line email message to "listserv" at the computer that sponsors the list. Leave the subject of the message blank.

UNSUBSCRIBE *listname*

where *listname* is the name of the list you are leaving.

Other Listserv Commands

There are other commands that you can send to the listserv at a particular site such as "review" to get a list of list participants and "get" to ask for archived files. If you will be away for some time, you can set your participation to "no mail" while you are gone. List management commands such as these must be sent to LISTSERV and not to the discussion list.

Reading and Posting Messages

When others post messages to a discussion list to which you subscribe, you receive their messages in your regular email. You read these email messages as you would any other electronic mail.

When you want to post to the list, you send email addressed to the *name of the list* at the computer that sponsors the list. You should fill in the topic of your mail in the subject field. The body of the mail can be one or many lines. For example, to post a message to WMST-L, send electronic mail to WMST-L@UMDD.

> Remember to send list management commands such as "subscribe" to LISTSERV and send messages to be posted to the *name* of the list.

A guide for users of discussion lists is included in *Zen and the Art of the Internet*. It is highly recommended that you read through the guidelines for using the Internet. You should also be familiar with your particular mail program to notice what happens if you "reply" to a list message; you don't want to send a reply meant for the sender only to the entire list!

Some discussion lists are also available in *digest* form. Instead of getting several email messages from the discussion list each day, you would get one compilation of the day's (or week's) messages. The WMST-L list has had a digest option since the end of January, 1992. On days when the mail volume warrants it, the digest is broken into two or three files rather than one, and you automatically receive them all. To receive the daily digest version of WMST-L rather than individual mail messages, send the following two-line email message to LISTSERV@UMDD (if your WMST-L subscription is under your BITNET address) or LISTSERV@UMDD.UMD.EDU (if your subscription is under your Internet address):

AFD ADD WMST-L PACKAGE
SET WMST-L NOMAIL

If at some point you wish to stop receiving the WMST-L digest, simply send LISTSERV a message that says:

AFD DEL WMST-L PACKAGE

If you do that, you also may wish to include a second line that says:

SET WMST-L MAIL

to resume receiving regular mail from WMST-L.

Subscriptions to electronic discussion groups allow researchers to enlarge their networks immensely, eliminating the need to be acquainted with or to know personally individuals who can provide desired information and

making geographic location irrelevant. New lists are created daily to serve varied and specific needs. All that is needed to participate in most of the groups is network access and the electronic address of the discussion group.

Other discussion groups that may be of interest to researchers on women include:

- EDUCOM-W@BITNIC, a moderated discussion of issues in technology and education that are of interest to women; designed to promote discussion of how EDUCOM[8] can help address those issues in its services to members. Subscription requests should be addressed to LISTSERV@BITNIC (BITNET) or to LISTSERV@BITNIC.EDUCOM.ORG.

- FEMAIL@HPLABS.HP.COM, another moderated group, provides a shared communication channel for feminists around the world to discuss shared interests in a friendly atmosphere. Requests for subscriptions should be addressed to FEMAIL-REQUEST@LUCERNE.ENG.SUN.COM or FEMAIL-REQUEST%HPLDLH@HPLABS.HP.COM.

- FEMINIST@MITVMA, owned by the Feminist Task Force of the American Library Association, discusses issues such as sexism, racism, pornography, censorship, and ethnic diversity in libraries and librarianship. Subscriptions should be addressed to LISTSERV@MITVMA.

- FEMREL-L@UMCVMB discusses issues relating to women and religion. Participants in the discussions of feminist theology are welcome from all religions, creeds, beliefs, and opinions, as long as individual differences are respected. Subscriptions should be addressed to LISTSERV@UMCVMB.

- GENDER@RPIECS is a moderated group devoted to discussion of questions and issues pertaining to the study of communication and gender. Participants are invited to pose questions, supply information, discuss, and debate any topics relevant to the general area of gender. The group is restricted to academically focussed discussion by communication students, faculty, and professionals. Subscription requests should be addressed to COMSERVE@RPIECE, to COMSERVE@VM.ECS.RPI.EDU, or to COMSERVE%RPIECS.BITNET@VM.ITS.RPI.EDU.

- WIML-L@IUBVM is devoted to women's issues in music librarianship. For more information on the list, contact Laura Gayle Green, at email address LGREEN@IUBVM. List subscription requests should be addressed to LISTSERV@IUBVM.UCS.INDIANA.EDU or LISTSERV@IUBVM.

- WWP-L@BROWNVM focuses generally on issues of teaching and research with respect to texts by women in English published from 1350–1850 and discusses specific activities of the Brown University Women Writers Project. Subscriptions should be addressed to LISTSERV@BROWNVM or LISTSERV@BROWNVM.BROWN.EDU.

- WISENET, Women in Science and Engineering, is a discussion to promote women and girls of diverse backgrounds in science, mathematics, and engineering. Subscriptions should be addressed to LISTSERV@UICVM.UIC.EDU.

- FEMECON-L is a discussion list for feminist economists. Participants share research, syllabi, pedagogy discussions, job listings, and other concerns of common interest. Address subscriptions to MAILSERV@BUCKNELL.EDU or MAILSERV@BKNLVMS.

- SWIP-L is an information and discussion list for members of the Society for Women in Philosophy and others who are interested in feminist philosophy. Address subscriptions to LISTSERV@CFRVM or LISTSERV@CFRVM.CFR.USF.EDU.

- SAPPHO@MC.LCS.MIT.EDU is a forum and support group for gay and bisexual women open to all women and limited to women. Requests for subscriptions should be addressed to SAPPHO-REQUEST@MC.LCS.MIT.EDU.

- BIFEM-L@BROWNVM is a group similar to SAPPHO and open to women only. Subscriptions should be addressed to LISTSERV@BROWNVM or LISTSERV@BROWNVM.BROWN.EDU.

- GAYNET@ATHENA.MIT.EDU focuses on gay and lesbian concerns on campus. Subscription requests should be addressed to GAYNET-REQUEST@ATHENA.MIT.EDU.

- To subscribe to the SYSTERS group, described above, contact Anita Borg at email address SYSTERS-REQUEST@DECWRL.DEC.COM.

List of Lists

Because there are now thousands of lists with new lists being added regularly. a printed copy of the list of all the discussion lists would be out of date almost as soon as it was printed. For that reason, the current *list of lists* is made available online in several locations. You can obtain it via the listserv program file server mechanism or you can use anonymous ftp as described later. The list of lists is so long that you are encouraged to see if your site maintains a public copy so that you don't have to get this large file. However, if you need to get your own copy via listserv, send a one-line email message to LISTSERV@BITNIC, with a blank subject:

list global

This list of lists is alphabetical by the name of the list. It may be helpful to search the list on several keywords to locate lists of interest to you. For example, if you are interested in studying influential factors in the low number of women in the sciences, you would likely want to explore WISENET, Women in Science and Engineering, at LISTSERV@UICVM.UIC.EDU, mentioned above. You might also discover SAIS-L, Science Awareness and Promotion, at LISTSERV@UNBVM1.BITNET and TAG-L, Education of Gifted and Talented Children, at LISTSERV@VM1.NODAK.EDU, which are not specifically women's lists but instead related to your particular area of research. The list of lists is also quite long and includes many computer and technical lists. A number of helpful summaries categorize the lists.

One useful version of the list of lists is the 4th Revision[9] of the *Directory of Scholarly Electronic Conferences*,[10] which is available eletronically in file format. The electronic files include Michael Strangelove's *Directory of Electronic Journals and Newsletters*. The files are numbered and organized alphabetically by topic: (1) anthropology through education, (2) futurology through Latin American studies, (3) library and information sciences through music, (4) political science through writing, (5) biological sciences, (6) physical sciences, and (7) business and general academia. Lists of interest to researchers on women

may appear in any of the files, but the lists mentioned above relating to women are described in the fourth file.

Another useful compilation, by Diane Kovacs, is *Directories of Academic E-Mail Conferences*. These two references are available by sending email to LISTSERV@UOTTAWA with just these two lines as the body of your mail:

```
get ejournl1 directry
get ejournl2 directry
```

Newsgroups

Newsgroups are another electronic mechanism for exchanging information. Newsgroups are similar to discussion groups, but the technical implementation is different. Each newsgroup focuses on a particular topic for discussion, but messages (or postings) do not arrive in your regular electronic mail. Instead, you call a special computer program[11] to read a newsgroup. The set of machines that participate and circulate newsgroup articles is called *Usenet*. Newsgroups are available to machines on the Internet. As with listserv discussion groups, newsgroups can be local or global. Some newsgroups are moderated and some are not. Overall, newsgroups seem to be more chatty than the discussion groups, but they often contain information that may be useful to the researcher.

The naming conventions for newsgroups are different than those for discussion groups. Newsgroups are organized in a tree structure and named according to their specific areas of concentration. Generally, newsgroup names look like Internet addresses in that they are groups of characters separated by periods. There are seven major categories of newsgroups:

- *comp* addresses topics of interest to computer professionals and hobbyists such as computer science, software sources, hardware, and software
- *sci* includes discussions relating to research in and applications of the established sciences
- *soc* addresses social issues and discussions relating to various world cultures.
- *rec* includes groups oriented towards hobbies and recreational activities
- *talk* newsgroups tend to feature long and often debate-oriented discussions
- *news* includes the newsgroups concerned with the news network, group maintenance, and software
- *misc* includes themes not easily classified into the other headings or which incorporate themes from multiple categories such as fitness, job-hunting, law, and investments

Three newsgroups likely to be of particular interest to researchers include "soc.feminism", "soc.women", and "soc.gender-issues".

Additional information on newsgroups is given in *Zen and the Art of the Internet*.[12] This book details specifics about reading and posting to newsgroups, including the *netiquette* for being polite and considerate of others in your posts.

Data File Distribution

Information stored on computers is saved in units called *files*. A file can have textual information that is easily readable and editable with a text editor program. Many files of information stored at various sites are intended for public consumption. There are two primary methods for providing access to these files of information. If the files are not too large, a listserv program on the computer can be a *fileserver* and distribute the files upon request. In addition or alternatively, the local computer administrator can make special security provisions to allow outsiders to sign on their computing system and use *anonymous ftp* to transfer the files quickly over the Internet.

Listserv File Distribution

The Listserv software that manages mailing lists for discussion groups, as described above, may also be used to distribute files. Sometimes these files are archives of the related discussion lists. For example, you could request the archived postings from WMST-L by sending commands to the listserv program UMDD. All of the messages posted to WMST-L since the list was started in May 1991 are available in log files.

Other types of files are also available via listserv. At UMDD, files containing syllabi of various Women's Studies courses have been made available. If you were a faculty member preparing to design a new course at your educational institution, you could check the archives for ideas about what is being done elsewhere.

To find out what syllabi are available, send a message to LISTSERV@UMDD (BITNET) or LISTSERV@UMDD.UMD.EDU (Internet) with no subject and the one-line message saying: "index syllabi". You will receive a (longer) list similar to the sample shown on the next page.

Once you have the file list, to obtain one of the syllabi files, send LISTSERV another message (addressed as above), with no subject, saying

GET *filename filetype* SYLLABI

where *filename filetype* is the name of the file. For example, to get the *Masculinity & Patriarchy* syllabus, ask for the file called "masculty patriacy" by sending LISTSERV@UMDD the message:

```
get masculty patriacy syllabi
```

Syllabi of several introductory courses and a variety of specialized courses are available and files are added to the syllabi directory regularly. Using Listserv software as a fileserver works for BITNET sites, but there is a much faster means to get files for Internet machines.

Anonymous FTP

FTP *File Transfer Protocol* is the primary method of transferring files over the Internet. On many systems "ftp" is also the name of the program used to transfer the files. The rate of transfer using ftp over the Internet is very fast by comparison with sending files over BITNET, on the order of 5–10K per second.

The general procedure to transfer files using ftp requires that you connect to the remote machine. Generally, system administrators set up a special userid for "guests" to use. When the system asks for your userid, you type "anonymous" and then use your true userid as the password. Examples of using anonymous ftp to obtain files are detailed in Appendix A.

Sample Index Syllabi File

* filename	filetype	GET	PUT	rec -fm	lrecl	nrecs	last - change date	time	File descript
SYLLABI	GETLOG	WMS	N/A	V	94	752	92/07/03	14:22:59	File download statistics *
EDUC_AND	GENDER	ALL	WMS	V	75	596	92/05/20	08:42:13	Education & Gender
FEMINIST	THEORY1	ALL	WMS	V	72	163	92/04/07	09:16:03	Wiener syllabus
FEMINIST	THEORY2	ALL	WMS	V	72	227	92/05/18	17:42:46	Gill Syllabus
FEMINIST	THEORY3	ALL	WMS	V	78	456	92/06/03	16:06:30	Morton Syllabus
FEMLIT	THEORY1	ALL	WMS	V	76	40	92/04/03	17:52:51	Feminist lit. theory
HEALTH	WOMENS1	ALL	WMS	V	75	340	92/06/03	16:11:09	Health care soc.& history
INTRO	KAHN	ALL	WMS	V	77	248	92/04/03	16:34:57	Intro to WS
INTRO	KELLERJH	ALL	WMS	V	75	365	92/04/03	17:54:52	Intro to WS
INTRO	MORGAN	ALL	WMS	V	69	120	92/04/03	17:56:05	Intro to WS
MASCULTY	PATRIACY	ALL	WMS	V	70	194	92/04/07	09:18:09	Masculinity & Patriarchy
MEDIA	COMMUNIC	ALL	WMS	V	71	77	92/04/07	09:17:26	Media,Rhetoric,Communication
METHODS	BIBLIO1	ALL	WMS	V	63	510	92/07/03	19:12:33	RESEARCH METHOD2 bibliog
MUSIC	PRFRMNCE	ALL	WMS	V	75	252	92/05/18	17:42:33	Music,Performance,Gender
POLITICS	GLOBAL	ALL	WMS	V	77	650	92/04/03	17:57:29	Pol. of Global Problems
RESEARCH	METHOD1	ALL	WMS	V	78	815	92/07/01	10:24:55	Grad course U Adelaide
RESEARCH	METHOD2	ALL	WMS	V	67	582	92/07/03	19:10:00	Hall syllabus U Alberta
SCIENCE	2SYLLABI	ALL	WMS	V	76	701	92/05/18	17:37:15	Gender & science
URBAN	SOC_MVTS	ALL	WMS	V	68	465	92/05/18	17:38:22	Urban Social Movements
WOMEN	WRITERS1	ALL	WMS	V	76	280	92/05/26	10:31:03	Contemp. Amer. lit.
WRITERS	WOMEN2	ALL	WMS	V	76	246	92/06/03	16:17:28	British & Amer. lit.
WRITERS	WOMEN3	ALL	WMS	V	77	190	92/06/04	18:03:26	American lit.
WRITERS	WOMEN4	ALL	WMS	V	78	203	92/06/04	18:05:34	African Americanlit.

Literally thousands of files are accessible over the Internet. The next section briefly explores a few handy tools for researchers on the Internet that make it easier to find specific files or files on a specific topic.

Telnet and Other Tools

Many library catalogs and other resources have been available online for some time. Programs such as *telnet* were used to access them. However, lack of standards and uniform methods of access were often cumbersome. It was necessary for the researcher (or librarian) to have dozens of sets of varying instructions for accessing various sites.

Thus, until fairly recently procedures for connecting to remote library sites and other services were often unwieldy and somewhat unreliable. Even experienced users often encountered difficulties making the appropriate connections, and novice users found it nearly impossible to navigate the necessary procedures.

Online access to libraries and other services has been simplified greatly by the development of user friendly interfaces including programs such as *libtel*, *archie* and *gopher*. These programs and others like them provide menu-driven screens eliminating the need to know what type of communications program to use, complicated Internet numerical addresses, and other technical details of little interest to the non-technician.

Further, the use of *archie*, *gopher*, and WAIS (Wide Area Information Server) programs, have made it easier to *find* files of interest.[13] Increased participation in electronic mailing lists has furthered the capability to spread the news about files of common interest to groups of users. The development of tools to make basic research access easier has been accompanied by some developments in the use of electronic communications over the networks.

Electronic Conferencing

One possibility that networking, electronic mail, and electronic discussions offer is the possibility of electronic conferencing. An electronic conference would be somewhat like its traditional conference counterpart. Papers are presented and discussions of those papers follow. However, in the case of the electronic conference, the papers are provided electronically and comments are made electronically as well, removing geographic distance and tight budgets as impediments to collegial conference activities.

A unique multidisciplinary electronic conference was held April 12–15, 1992 in connection with the 11th Annual Gender Studies Symposium at Lewis and Clark University, Portland Oregon. *The Electronic Salon: Feminism Meets Infotech* was an electronic forum focused on a series of papers on gender and technoscience. The papers were not only delivered at the Symposium, they were also made available electronically. Announcements of this event asking for participation were posted on several listserv discussion lists. Participants were supplied via email with instructions for accessing a dozen papers, and the content of the papers was discussed via electronic mail over the three days of the conference and several days beyond. Some of the papers shared and discussed electronically included:[14]

- *Computers and Their Bodies: Sex, War and Cyberspace*[15]
- *Gender and the Cultural Construction of Computing*[16]
- *Electronic Networks: Safe for Women?*[17]
- *Princess of Parallelograms and Her Daughter: Math and Gender in the Nineteenth Century English Aristocracy*[18]
- *The Social Construction of an Engineering Curricula: Converting to a Standpoint Model*[19]
- *Indiscretions: Disorderly Bodies and the Constitution of Privacy*[20]

The electronic conference makes possible a large geographic representation among the participants.

The Electronic Salon had participants not only from Oregon, the conference location, but also from Illinois, Minnesota, Texas, California, South Carolina, New York, Kentucky—and even Western Australia.

The electronic publishing of conference proceedings and papers suggests another use for electronic communications, the creation of *electronic journals*.

Electronic Journals

Submissions for *electronic journals* are made electronically over the networks. Those submissions are circulated electronically for review. The chosen submissions are published and circulated electronically. The number of electronic journals is likely to grow rapidly in the coming years, but there is as yet little to report.

Two examples of scholarly electronic journals are *Ejournal*, published here at the University at Albany and *PostModern Culture*, published at North Carolina State University. *Ejournal* deals with the implications of electronic networks and texts and boasts over 2500 subscribers in 37 countries. More than a dozen electronic journals have been established, but none of them deals directly with women, women's issues or research on women. Thus, electronic journals are as yet only a potential source of access to research on women.

Nonetheless, because the electronic journal provides an extremely fast method to publish and distribute research results, it is an area likely to see rapid growth in the next few years.

In addition to the resources and capabilities provided through BITNET and the Internet, there are two other classes of electronic resources that should be noted: numerical data sources and full-text databases. These resources are discussed briefly in the next two sections.[21]

Generally, the resources discussed up until now have been *free* to the researchers in the sense that access involves no special membership fees. If you have access to the Internet, you also have access to these resources. The following resources, however, require the payment of additional licensing or access fees.

Numerical Data Sources

A primary source of numerical datasets is the Inter-university Consortium for Political and Social Research (ICPSR). ICPSR collects, archives, and distributes data from all areas of the social sciences with an emphasis on the United States. Some datasets relate specifically to women, while others, such as the Retirement History Longitudinal Survey series, are coded for gender.

The Henry A. Murray Research Center of Radcliffe College gathers data concerning women's lives and issues relevant to women such as women's work, health, political participation, retirement and aging. The datasets include the questionnaires used to gather the data and the Center maintains lists of publications based on the datasets.

WISTAT (Women's Indicators and Statistics), a numeric database containing national and international statistics on women including estimates and projections, is available on diskette or on magnetic tape.

The United States government is a major source of numeric data that, although gathered by government agencies for their purposes, can be used by researchers. The data is varied, but includes much that is economic or demographic in nature.

As computing expertise in research centers increases, additional data regarding research on women is likely to become available online.

Full-Text Databases

Full-text databases also provide primary access to research on women. Examples include WESTLAW and LEXIS, two full-text legal databases, and VUTEXT, which contains the texts of selected newspapers. These services are available online. None of the online full-text databases, however, deals specifically with research on women.

One difficulty with databases is that they generally require an information retrieval expert familiar with the database to assist the novice user. The materials are not stored in a format suitable for straight or direct searching. Minimally, some familiarity with the indexing structure or the query language of the particular database is required.

One full-text database available on compact disk (CD-ROM) is called *Women: Partners in Development*. This CD-ROM database provides documents from international and educational organizations on women's development in such areas as agriculture, business, communications, education, employment, health, law, science, and technology.

Secondary Sources of Research on Women

Although more and more electronic resources are becoming directly available to the researcher, other sources continue to be accessible through libraries. Secondary sources of access to research on women include the indexing and abstracting services that list periodical articles and, on occasion, other materials. At present, three indexing or abstracting services devoted specifically to women's studies provide bibliographic access to research on women. They are *Women's Studies Abstracts*, *Studies on Women Abstracts*, and *Women's Studies Index*. None of these are currently available electronically, although the publisher of the *Women's Studies Index*, G. K. Hall, has indicated that it plans to issue a CD-ROM version in a few years.

Online databases, supplied by vendors such as BRS or DIALOG, provide bibliographic data and a user interface that facilitates access. These databases include citations to many reports of research on women.[22] Although these databases were originally designed to be used by a trained search analyst working with the researcher, some vendors have developed a more user-friendly interface, such as BRS After Dark, which is designed to be used by the researcher directly.

Other forms of electronic access to research on women are CD-ROM databases (e.g., Sociofile, Psychlit) and microcomputer-based databases (e.g., Memphis State's Research Clearinghouse on Women of Color and Southern Women, the University at Albany's PR-WOMENET), which are designed to be used by the researcher. Another electronic source of information about research on women is the Research In Progress Database (RIPD), a listing of research projects underway. The National Center for Research on Women collects information on research projects on women and contributes records to the database. The RIPD is a special database of the Research Libraries

Information Network (RLIN), a bibliographic utility provided by the Research Libraries Group.

Although few of these secondary sources are devoted solely to women, the majority cover journals that include articles on women. A recent study of the coverage of women's studies and feminist journals by indexing and abstracting services found that 40 percent were indexed by the relevant indexing and abstracting services, many of which are available online or on CD-ROM.[23] An associated study of articles in women's studies journals relating to anthropology, political science, psychology and sociology, found that over 70 percent were included in the social sciences abstracts and indexes.[24]

Conclusion

Electronic access to research on women is growing by leaps and bounds as technology presents new methods of storing and sharing information. Keeping up with what is available is a never-ending challenge to researchers. Yet it is difficult to avoid using the new technologies if scholars are to keep current with what is happening in their fields.

In particular, researchers should obtain access to electronic mail, subscribe to those lists important to their work, and become familiar with the techniques for accessing information at other sites, such as listserv, anonymous ftp, archie, and libtel. Graduate assistants also should learn about these tools and may serve as intermediaries in identifying knowledgeable individuals at the library or campus computing center who can help researchers in their quest for access. Computer centers and libraries have traditionally produced a variety of written materials including both short handouts and longer manuals introducing and explaining the use of their various systems. Researchers should take advantage of working with library and computer center professionals in obtaining the requisite skills

Finally, it should be clearly noted that technology is developing so quickly that this guide is becoming out-of-date even as we write it! New discussion lists, new newsgroups, and new files of available information appear on a daily basis. New applications of technology are limited only by our imaginations. Nonetheless, this short guide should be enough to get the interested researcher started in the fascinating world of electronic communication and using the Internet.

Appendix A: Anonymous FTP

Anonymous ftp is a primary method of obtaining files over the Internet. To demonstrate the procedure here, ftp is used to obtain files from three different sites below. In each case, the general procedure is the same, (1) sign on your local computer, (2) call ftp with the name of the machine with the files, (3) sign on as *anonymous*, (4) "get" the files, and (5) sign off.

Example 1: *Electronic Salon Papers*

This paper mentioned a series of papers presented at an electronic conference, *The Electronic Salon: Feminism Meets Infotech*. These papers are available from LCLARK.EDU using the following procedure:

Sign on your computer and do whatever preparation your individual computer requires to use ftp.[25] Then, use these commands:

ftp lclark.edu
anonymous (at the login prompt)
youruserid (at the password prompt)
cd gender (to connect to the directory)
ls *or* **dir** (to see a file list)
get INDEX.papers (for an index)[26]
get *name.file* (for one paper)
mget *.* (for all the papers)
bye (or **quit**) (to sign off)

If you choose to "mget" all the files, you will see messages indicating which file is being transferred and how long it takes to transfer each file. You may be surprised are how very quickly the files are transferred!

Example 2: *Hitchhiker's Guide* and Other RFC Documents

At the beginning of this article, a document entitled *Hitchhiker's Guide to the Internet* was mentioned. This document is one of a series of *Request for Comment* (RFC) documents available from NIS.NSF.NET. Historically, RFC documents were technical documents designed to develop policies, configurations, and network standards. A few of these documents have been adopted for information value as FYI *For Your Information* documents. *Hitchhiker's Guide* is designated "rfc1118.txt" and originally was available by this name, which appears at the beginning of the document.

To obtain the file containing the document *Hitchhiker's Guide to the Internet*, sign on your computer and do whatever preparation your individual computer requires to use ftp.[27] Then, use these commands:

ftp nis.nsf.net
anonymous (at the login prompt)
youruserid (at the password prompt)
cd internet/resources (to connect to the directory)
get hitchhikers.guide
bye (or **quit**) (to sign off)

There are hundreds of files available from NIS.NSF.NET. Other files you may be interested in include:

- rfc1206, *Answers to Commonly Asked "New Internet User" Questions*, 1991.
- rfc1290, *There's Gold in Them Thar Networks*, 1991.
- rfc1175, *Where to Start: A Bibliography of Internetworking Information*, 1990.

To obtain these other files, follow the procedures outlined above in example 2 to connect to NIS.NSF.NET, but then:

cd introducing.the.internet
(connect to a different directory)
get *file.name* where *file.name* is
the name of the file you want, e.g.,
answers.to.new.user.questions[28]
network.gold
where.to.start[29]
zen.txt

As indicated by the name of the last file, this site provides a text version of *Zen and the Art of the Internet* (first edition). Alternatively, you could obtain either the text or postscript version of *Zen* by using anonymous ftp to FTP.CS.WIDENER.EDU, as described in example 3 below.

Example 3: Getting *Zen* Files

The author of *Zen and the Art of the Internet*, Brendan Kehoe, makes the first edition available on-line as well as current notes about the book. To obtain this file:

ftp ftp.cs.widener.edu
anonymous (at the login prompt)
youruserid@machinename
(at the password prompt)
cd pub/zen
dir (to see a file listing)
get README read.me[30]
get zen-1.0.PS zen1.ps[31]
bye (or **quit**) (to sign off)

If you have any problem getting anonymous ftp to work properly from your computer, contact your local computing center staff for assistance.

Appendix B: Gopher

In September 1992, the first Internet accessible Women's Studies database was announced at the University of Maryland, College Park. The categories of information in the database include:

- Calls for papers
- Conferences
- Employment
- Film reviews
- Miscellaneous
- Syllabi
- WMST-L

Bibliographies were expected to be added shortly. This database is part of a much larger WAIS. To access the Women's Studies database from your networked machine:

Sign on to your computer and do whatever preparation your individual computer requires to use telnet.[32]

1. **telnet info.umd.edu**
2. **gopher** (at the login prompt)
3. press return to accept the default terminal type (or enter another supported type)
4. move the arrow to: 3 Info--Gopher interface and press return
5. move the arrow to: 8 Teaching and press return
6. with the arrow on WomensStudies, press return
7. move the arrow to one of the available topics and press return

Items ending with / are directories containing more selections and items ending with a period are files that can be viewed or emailed to yourself. You can press ? for help after you login. By choosing other options besides the Women's Studies database you can experience the ease of exploration using a gopher interface.

Notes

1. For a history of the development of electronic resources see Clifford A. Lynch and Cecelia M. Preston, "Internet Access to Information Resources," in Martha Williams (ed), *Annual Review of Information Science and Technology*, vol. 25, 1990, pp. 263–312.

2. M. Pritchard, Sarah, "Trends in Computer-based Resources for Women's Studies," *Feminist Teacher*, Vol. 3. No. 3 (Fall-Winter 1988), pp. 8–13.

3. Brendan P. Kehoe, *Zen and the Art of the Internet: A Beginner's Guide*, Second Edition, New York: Prentice Hall, 1992.

4. E. Krol, *RFC1118: Hitchhiker's Guide to the Internet*, University of Illinois Urbana, 1989.

5. Directions for obtaining the *Hitchhiker's Guide* are given in Appendix A. The first edition of *Zen* is available electronically from several sites.

6. For example, on the VAXcluster at the University at Albany all email being sent to addresses on machines other than our VAXes must be addressed in the form in%"*userid@computeraddress*". On our IBM mainframe, an email address on another machine is specified using the word "at" rather than the "@-sign". To send mail to a BITNET site from one of the machines in our UNIX Cluster, you append ".bitnet" to the BITNET address.

7. The story behind the creation of SYSTERS was detailed in Ann Gibbon's article "Creative Solutions: Electronic Mentoring," *Science*, vol. 255, March 13, 1992, p. 1369.

8. EDUCOM is a nonprofit consortium of higher education institutions that facilitates the introduction, use, access to, and management of information resources in teaching, learning, scholarship, and research.

9. The 5th version is due out in the summer or fall of 1992.

10. Available in print and on diskette (DOS WordPerfect and MacWord) from:

Office of Scientific & Academic Publishing
Association of research Libraries
1527 New Hampshire Avenue, NW
Washington DC 20036
ARLHQ@UMDC.BITNET
(202) 232–2466
(202) 462–7849 (FAX)

11. These programs are called *newsreaders*. Commonly used newsreaders include "rn," "xrn," and "nn." UNIX users frequently use GNU news from within the "Emacs" program to read newsgroups. Check your local system for the appropriate program for you to read news.

12. Kehoe, *Zen*.

13. A good example of the use of *gopher* is given in Appendix B. An Internet accessible Women's Studies database at the University of Maryland, College Park is described.

14. All of the papers were archived at Lewis and Clark College for *The Electronic Salon. Feminism Meets Infotech* in connection with the 11th Annual Gender Studies Symposium in April 1992. For directions on how to access these papers from LCLARK.EDU, see Appendix A.

15. *Computers and Their Bodies: Sex, War and Cyberspace* by Deborah Heath, Department of Sociology and Anthropology, Lewis and Clark College.

16. *Gender and the Cultural Construction of Computing*, adapted from "From 'Impact' to Social Process: Case Studies of Computers in Politics, Society, and Culture," Chapter IV-A, *Handbook of Science and Technology Studies*, Beverly Hills: Sage Press, forthcoming, by Paul N. Edwards, Department of Science and Technology Studies, Cornell University.

17. *Electronic Networks: Safe for Women?* by Cheris Kramarae, Speech Communication, and Sociology, University of Illinois and Jeanie Taylor, Center for Advanced Study, University of Illinois.

18. *Princess of Parallelograms and Her Daughter: Math and Gender in the Nineteenth Century English Aristocracy* by Judith S. Lewis, Department of History, University of Oklahoma.

19. *The Social Construction of an Engineering Curricula: Converting to a Standpoint Model* by Laura Kramer, Department of Sociology, Montclair State College.

20. *Indiscretions: Disorderly Bodies and the Constitution of Privacy* by Allison Fraiberg, Department of English, University of Washington.

21. For a more extensive description of numerical data sources relating to women see Eleanor Gossen, "Women in Nonbibliographic Databases" in Steven Atkinson and Judith Hudson (eds), *Women Online: Research in Women's Studies Using Online Databases*, New York: Hawthorn Press, 1990, pp. 259–280.

22. For an extensive coverage of databases, see *Women Online*, edited by Steven D. Atkinsen and Judith Hudson, New York: Haworth Press, 1990.

23. Kristen H. Gerhard, Trudi E. Jacobson & Susan G. Williamson. "Indexing Adequacy and Interdisciplinary Journals: The Case of Women Studies" College and Research Libraries (in press).

24. Judith Hudson and Rita Pellen. "Access to Research on Women in the Social Sciences" (in preparation).

25. At the University at Albany, using ftp on the IBM mainframe or on a machine in the UNIX Cluster, requires no special preparation. On the VAXcluster, however, you must "prepare tcp" and then use "ftpu" instead of "ftp".

26. Use upper and lower case exactly.

27. See note 25.

28. If you are using ftp from a non-UNIX machine such as our VAXcluster, you must rename the files to match your local filename requirements or you will get an error message when you try to "get" the file.

29. See note 28.

30. Use upper case as shown.

31. See note 28 regarding file names.

32. At the University at Albany, using telnet on the IBM mainframe or on a machine in the UNIX Cluster, requires no special preparation. On the VAXcluster, however, you must "prepare tcp" and then use "telnet".

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